```
=> d his
     (FILE 'HOME' ENTERED AT 14:12:45 ON 15 DEC 2008)
     FILE 'REGISTRY' ENTERED AT 14:13:05 ON 15 DEC 2008
               E MESNA/CN
L1
              1 S E3
     FILE 'CAPLUS' ENTERED AT 14:13:33 ON 15 DEC 2008
           694 S L1
                E END-STAGE RENAL DISEASE+ALL/CT
1.3
           8150 S ESRD OR (END-STAGE RENAL DISEASE OR "KIDNEY, DISEASE" (L) "FA
                E DIALYSIS+ALL/CT
          61762 S DIALYSIS
T. 4
              3 S L2 AND L3 AND L4
L6
              0 S L5 AND PD<20031218
     FILE 'USPATFULL, USPATOLD, USPAT2' ENTERED AT 14:18:22 ON 15 DEC 2008
L7
            237 S L1
           2941 S ESRD OR (END-STAGE RENAL DISEASE OR "KIDNEY, DISEASE" (L) "FA
L8
L9
          63716 S DIALYSIS
L10
              1 S L7 AND L8 AND L9
              0 S L10 AND PD<20031218
     FILE 'MEDLINE, BIOSIS, EMBASE, WPIX, JAPIO, PASCAL, DISSABS' ENTERED AT
     14:19:34 ON 15 DEC 2008
     FILE 'REGISTRY' ENTERED AT 14:19:45 ON 15 DEC 2008
                SEL L1 1-
     FILE 'MEDLINE, BIOSIS, EMBASE, WPIX, JAPIO, PASCAL, DISSABS' ENTERED AT
     14:20:03 ON 15 DEC 2008
L12
           7099 S E1-E17
L13
          50534 S ESRD OR (END-STAGE RENAL DISEASE OR "KIDNEY, DISEASE" (L) "FA
L14
         296903 S DIALYSIS
L15
              6 S L12 AND L13 AND L14
L16
              0 S L15 AND PD<20031218
               SAVE TEMP ALL A10596479/L
L17
              9 S L12 AND L13
L18
              0 S L17 AND PD<20031218
     FILE 'USPATFULL, USPATOLD, USPAT2' ENTERED AT 14:30:15 ON 15 DEC 2008
L19
           1385 S E1-E17
1.20
           1417 S L19 OR L7
L21
            18 S L20 AND L8
L22
              1 S L21 AND PD<20031218
     FILE 'CAPLUS' ENTERED AT 14:34:05 ON 15 DEC 2008
```

L23

L24

6 S L2 AND L3

0 S L23 AND PD<20031218

L22 ANSWER 1 OF 1 USPATFULL on STN

ACCESSION NUMBER: 2005:257269 USPATFULL <<LOGINID::20081215>>

TITLE: Biomarkers for oxidative stress

INVENTOR(S): Kinkade, Jr., Joseph M., Decatur, GA, UNITED STATES

Shapira, Raymond, Atlanta, GA, UNITED STATES Jensen, Peter E., Atlanta, GA, UNITED STATES Le, Ngoc-Anh, Decatur, GA, UNITED STATES

Pohl, Jan, Tucker, GA, UNITED STATES Brown, W. Virgil, Atlanta, GA, UNITED STATES

PATENT ASSIGNEE(S): Emory University, Atlanta, GA, UNITED STATES (U.S.

corporation)

NUMBER KIND DATE -----PATENT INFORMATION: US 6953666 B1 20051011 WO 2000028072 20000518 <--US 2001-831123 APPLICATION INFO.: 19991105 (9) WO 1999-US26133 19991105 20010813 PCT 371 date

> NUMBER DATE

PRIORITY INFORMATION: US 1998-107404P 19981106 (60)

DOCUMENT TYPE: Utility FILE SEGMENT: GRANTED PRIMARY EXAMINER: Le, Long V.
ASSISTANT EXAMINER: Cook, Lisa V.

LEGAL REPRESENTATIVE: Greenlee, Winner and Sullivan, P.C. NUMBER OF CLAIMS: 35

EXEMPLARY CLAIM:

NUMBER OF DRAWINGS: 21 Drawing Figure(s); 17 Drawing Page(s) LINE COUNT: 2591

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB This invention related generally to methods of detecting and quantifying biomarkers of oxidative stress in proteins. The biomarker may be any amino acid that has undergone oxidation (or other modification, e.g. chloro-tyrosine, dityrosine). Emphasis is given herein on oxidized sulfur- or selenium-containing amino acids (SSAA). The biomarker of oxidative stress in proteins may be detected with an antibody that binds to oxidized amino acids, specifically oxidized sulfur- or selenium-containing amino acids. The antibody may be monoclonal or polyclonal. The presence of biomarker or amount of biomarker present in a sample may be used to aid in assessing the efficacy of environmental, nutritional and therapeutic interventions, among other uses.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

- FIG. 15 shows PAoxOVA ELISA for plasma samples from 47 patients DRWD undergoing renal dialysis in the course of management of end stage renal disease.
- DETD . . . the methodology. MSA may also be used that does not contain the antioxidant 3-(2-aminoethyl)indole. The sodium salt of 2-mercaptoethanesulfonic acid (MESNA) is added (as high as 48 mM final concentration) to all protein samples prior to hydrolysis. Addition of MESNA suppresses the conversion of intermediate oxidation products of cysteine/cystine to cysteic acid. MESNA

has no effect on the recovery of cysteic acid as judged by the quantitative recovery of an added cysteic acid standard. MESNA is also used in place of N-acetyl-L-cysteine in the orthophthalaldehyde derivatization reaction. As a result, one does not obtain the. .

DETD Patients undergoing renal dialysis. Plasma samples were obtained from 47 patients undergoing renal dialysis in the course of management of end stage renal disease. These

samples were diluted 1:200 and examined in the PAoxOVA ELISA for the presence of endogenous antibody to ODP. The. . .